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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,149	02/08/2001	Damian Hajduk	1012-123D2(99-90DIV2)	4223

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EXAMINER

FRIEND, TOMAS H F

ART UNIT

PAPER NUMBER

1639

DATE MAILED: 05/13/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

file copy

Application No.

09/779,149

Applicant(s)

HAJDUK ET AL.

Examiner

Tomas Friend

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 49-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 49-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 9-10. 6) ☐ Other:

Detailed Action

Change of Art Unit Designation

Please note: The Art Unit location of this application in the PTO has changed from Art Unit 1627 to Art Unit 1639. To aid in matching papers to this application, all further correspondence regarding this application should be directed to **Group Art Unit 1639**.

Status of the Application

Receipt is acknowledged of a supplemental information disclosure statement on 25 January 2002 (Paper No. 10).

Status of the Claims

Claims 49-55 are pending in the present application and are examined on their merits.

Information Disclosure Statements

The information disclosure statements filed with this application list 160 references including US patents, WIPO publications, journal articles, and US patent applications. No comments regarding the relevance of any of these references to the presently claimed invention were provided to the examiner. The references listed in the in the information disclosure statements have only been considered to the extent permitted, given the limited amount of time available to the examiner to examine this application.

Claims Rejections - Non-statutory Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 49-55 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. 6,182,499. Although the conflicting claims are not identical, they are not patentably distinct from each other because the method disclosed in the '499 Patent reads on the presently claimed invention, which is broader in scope than the method claimed in the '499 patent. Multiple tuning forks perturbing a plurality of samples in a combinatorial array being monitored to measure viscosity reads on present claims 49-52. Column 10, lines 38-39 discloses measuring the magnitude (i.e. force) of excitation pulses and echoes. Column 13 discloses that a large number of array cells (i.e. 96 or more) can be multiplexed. Consequently, present claims 53-55 are not patentably distinct from claim 1-12 of the '499 Patent.

2. Claims 49-55 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 4 of U.S. Patent No. 6,438,497 B1. Although

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the conflicting claims are not identical, they are not patentably distinct from each other because the method disclosed in the '497 Patent reads on the presently claimed invention, which is broader in scope than the method claimed in the '497 patent. Claim 4 of the '497 Patent recites a method for characterizing one or more mechanical properties of each of 5 or more samples. The claim recites a mechanical resonator (probe) that mechanically perturbs the samples and measures the amount of damping (i.e. force exerted on the probe) in a the resonance signal in response to the application of a magnetic field. Column 5 discloses an 8x12 array of sensors (i.e. 96 samples characterized simultaneously). Consequently, it would have been obvious at the time that the present invention was made to use an array of 96 samples.

3. Claims 49-55 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,393,859 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because the method claimed in the '895 Patent includes tuning fork resonators that perturb a plurality of samples in an array simultaneously and analyzing resonator responses to measure physical properties such as viscosity. Figure 5 discloses the measurement of the physical properties of 12 liquids simultaneously. One skilled in the art would immediately have envisaged the scale up to a 96 well format, which was the most commonly used array format for combinatorial synthesis.

Claims Rejections – 35 U.S.C. 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 49-55 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are elements that link perturbation of materials with the response monitored and screening. As written, the present claims do not provide enough information linking the elements of screening, perturbing, and monitoring for one skilled in the

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art to determine what would infringe on the claims. For example, a plurality of beakers containing different liquids being stirred on different stirring plates being monitored (to see if a solute is dissolved or not), for example, appears to read on present claim 49 but does not appear to be applicants' invention. Claims 50 and 51 provide no element linking measurement of forces exerted by probes and screening. Claim 52 provides no element linking the recited physical properties to a response. Claim 50 recites measuring forces exerted on the probes by the material samples "*as functions of displacement between the probes and the materials.*" It is not clear how a force can be measured if the sample is displaced from (i.e. not in contact with) the probes.

Claims Rejections – 35 U.S.C. 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. Claims 49-55 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6,182,499 McFarland et al. February 2001, filed October 1997.

The presently claimed invention is drawn to a method of screening a combinatorial library of at least 96 materials comprising [1] mechanically perturbing at least two of the materials simultaneously with probes; [2] measuring forces exerted on the probes by the materials as a function of time; and [3] relating the result to viscosity.

The '499 Patent discloses a method of screening an array of liquid materials comprising multiple tuning forks (probes) perturbing a plurality of samples in a combinatorial array being monitored to measure viscosity (claims 1-12). Column 10, lines 38-39 discloses measuring the magnitude (i.e. force) of excitation pulses and echoes. Column 13 discloses that a large number of array cells (i.e. 96 or more) can be multiplexed. Columns 11 and 12 disclose taking measurements as a function of time. Consequently, present claims 53-55 are anticipated by the '499 Patent.

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6. Claims 49-55 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6,438,497 B1 Mansky et al. August 2002, filed December 1998.

The presently claimed invention is drawn to a method of screening a combinatorial library of at least 96 materials comprising [1] mechanically perturbing at least two of the materials simultaneously with probes; [2] measuring forces exerted on the probes by the materials as a function of time; and [3] relating the result to viscosity.

The '497 Patent discloses a method for characterizing one or more properties of each of 5 or more samples in an array (i.e. screening a combinatorial library). A plurality of sensors (probes) is disposed in the array (i.e. at least two samples are simultaneously contacted with the probes). In one embodiment an electrode that acts as a mechanical resonator (mechanically perturbing the sample) and sensor used to measure viscosity. The resonator can be used to measure weight or force (column 37). A mechanical actuator can be used in place of the resonator and characterization would be conducted by measuring the amount of displacement in the actuator (column 37, lines 63-67). Column 5 discloses an 8x12 array of sensors (i.e. 96 samples characterized simultaneously). Accordingly, present claims 53-55 are anticipated by the '497 Patent.

7. Claims 49-55 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6,393,895 B1 Matsiev et al. May 2002, filed August 1998.

The presently claimed invention is drawn to a method of screening a combinatorial library of at least 96 materials comprising [1] mechanically perturbing at least two of the materials simultaneously with probes; [2] measuring forces exerted on the probes by the materials as a function of time; and [3] relating the result to viscosity.

The '895 Patent discloses a method for simultaneously measuring electrical and physical properties of liquids (materials) in an array using tuning fork resonators to mechanically perturb the solutions and analyzing the responses. The measurement of resistance (i.e. force) to determine viscosity is disclosed, for example in column 10, lines 37-47. Column 13 discloses taking measurements over time as a solution gels. Figure 5 discloses the measurement of the physical properties of 12 liquids simultaneously. One skilled in the art would immediately have

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envisaged the scale up to a 96 well format, which was the most commonly used array format for combinatorial synthesis.

Conclusion


8. No claims are allowed.

9. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tomas Friend** at telephone number **(703) 308-4548**. The examiner works on a flexible schedule of four ten-hour days per week.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (703) 306-3217. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-2742.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist at (703) 308-1235.



ANDREW WANG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600

Tomas Friend, Ph.D.
02 May 2003